

### REMARKS

Applicants have amended claim 1, and have cancelled claims 2-30, during prosecution of this patent application. Applicants are not conceding in this patent application that the subject matter encompassed by said amended and cancelled claims are not patentable over the art cited by the Examiner, since the claim amendments and cancellations are only for facilitating expeditious prosecution of this patent application. Applicants respectfully reserve the right to pursue the subject matter encompassed by said amended and cancelled claims, and to pursue other claims, in one or more continuations and/or divisional patent applications.

Applicants respectfully contend that all amendments of claim 1 are fully supported by Applicants FIGs. 11A, 11B, 11C, 14A, 14B and 17 and supporting text in the specification.

The Examiner rejected claims 11, 12, 26 and 27 under 35 U.S.C. § 112, second paragraph.

The Examiner indicated claim 29 is unclear because it depends on claim 15, which is a method claim.

The Examiner rejected claims 1-3, 5, 6, 8-11, 16-18, 20, 21 and 23-26 under 35 U.S.C. § 102(b) as allegedly being anticipated by Nakamura et al. (01-147063).

The Examiner rejected claims 1-3, 5, 7, 10, 16-18, 20, 22 and 25 under 35 U.S.C. § 102(b) as allegedly being anticipated by Sudo (Japan 60-89571).

The Examiner rejected claims 1, 4, 12, 16, 19 and 27 under 35 U.S.C. § 102(b) as allegedly being anticipated by Hurwitt et al. (U.S. Pat. 4,957,605).

The Examiner rejected claims 13 and 28 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakamura et al. (01-147063) or Sudo (Japan 60-89571) or Hurwitt et al. (U.S. Pat. 4,957,605) in view of Arita (Japan 03-257161).

The Examiner rejected claims 14, 15, 29 and 30 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakamura et al. (01-147063) or Sudo (Japan 60-89571) or Hurwitt et al. (U.S. Pat. 4,957,605) in view of Kobayashi et al. (U.S. Pat. 5,944,968).

Applicants respectfully traverse the § 112, § 102 and § 103 rejections with the following arguments.

**35 U.S.C. § 112, Second Paragraph**

The Examiner rejected claims 11, 12, 26 and 27 under 35 U.S.C. § 112, second paragraph.

Applicants believe the rejection of claims 11, 12, 26 and 27 under 35 U.S.C. § 112, second paragraph is moot in light of Applicants canceling claims 11, 12, 26 and 27.

**35 U.S.C. § 102: Nakamura**

The Examiner rejected claims 1-3, 5, 6, 8-11, 16-18, 20, 21 and 23-26 under 35 U.S.C. § 102(b) as allegedly being anticipated by Nakamura et al. (01-147063).

Applicants respectfully contend that Nakamura does not anticipate claim 1, as amended, because Nakamura does not teach each and every feature of claim 1. For example, Nakamura does not teach the following limitations of claim 1:

(1) “inner and outer ring shaped pole extenders positioned and contained entirely in respective said inner and outer slots in said sputter target.” The pole extenders of Nakamura are in the backing plate 10, not target 11 in Nakamura FIG. 2.

(2) “a perimeter of said backing plate positioned over a perimeter of said sputter target.” The perimeter of target 11 is within the perimeter of backing plate 10 in Nakamura FIG. 2.

(2) “a protective coating on all surfaces of said pole extenders.”

(3) “aligning said outer set of magnets under said outer pole extender and aligning said inner set of magnets under said inner pole extender, an axis passing through a geometric center of said sputter target assembly co-axially aligned with an axis passing through said geometric center of said mounting plate.” There are no magnets under pole extenders 11b of Nakamura FIG. 2.

(4) “rotating said magnet assembly about an axis parallel to and perpendicularly offset from said axis passing through said geometric center of said magnet assembly.” Nakamura does not teach rotation of the magnets.

Based on the preceding arguments, Applicants respectfully maintain that Nakamura does not anticipate claim 1, and that claim 1 is in condition for allowance.

**35 U.S.C. § 102(b): Sudo**

The Examiner rejected claims 1-3, 5, 7, 10, 16-18, 20, 22 and 25 under 35 U.S.C. § 102(b) as allegedly being anticipated by Sudo (Japan 60-89571).

Applicants respectfully contend that Sudo does not anticipate claim 1, as amended, because Sudo does not teach each and every feature of claim 1. For example, Sudo does not teach the following limitations of claim 1:

(1) “an electrically conductive solid circular backing plate.” The backing plate of Sudo is hollow.

(2) “a perimeter of said backing plate positioned over a perimeter of said sputter target.” In Sudo FIGs 2 and 5 it appears that the perimeter of target 1 is within the perimeter of everything else.

(3) “inner and outer ring shaped pole extenders positioned and contained entirely in respective said inner and outer slots in said sputter target.” In Sudo FIG. 5 are not entirely within target 1.

(4) “a protective coating on all surfaces of said pole extenders.”

(5) “an outer set of bar magnets” and “an inner set of bar magnets.” The magnets of Sudo are electromagnets.”

(6) “aligning said outer set of magnets under said outer pole extender and aligning said inner set of magnets under said inner pole extender, an axis passing through a geometric center of said sputter target assembly co-axially aligned with an axis passing through said geometric center of said mounting plate.”

(7) “rotating said magnet assembly about an axis parallel to and perpendicularly offset from said axis passing through said geometric center of said magnet assembly.” Sudo does not teach rotating magnets.

Based on the preceding arguments, Applicants respectfully maintain that Sudo does not anticipate claim 1, and that claim 1 is in condition for allowance.

**35 U.S.C. § 102(b): Hurwitt**

The Examiner rejected claims 1, 4, 12, 16, 19 and 27 under 35 U.S.C. § 102(b) as allegedly being anticipated by Hurwitt et al. (U.S. Pat. 4,957,605).

Applicants respectfully contend that Hurwitt does not anticipate claim 1, as amended, because Hurwitt does not teach each and every feature of claim 1. For example, Hurwitt does not teach the following limitations of claim 1:

- (1) “an electrically conductive solid circular backing plate.”
- (2) “a perimeter of said backing plate positioned over a perimeter of said sputter target.”
- (3) “inner and outer ring shaped pole extenders positioned and contained entirely in respective said inner and outer slots in said sputter target.” Per (1), (2) and (3) it is unclear how the assembly of Hurwitt FIG. 1, 3 or 4 can simultaneously represent all of the listed structures. Also pole piece 46/46a is problematic as to the limitation “solid.”
- (4) “a protective coating on all surfaces of said pole extenders.”
- (5) “an outer set of bar magnets” and “an inner set of bar magnets.” The magnets of Hurwit are electromagnets.”
- (6) “aligning said outer set of magnets under said outer pole extender and aligning said inner set of magnets under said inner pole extender, an axis passing through a geometric center of said sputter target assembly co-axially aligned with an axis passing through said geometric center of said mounting plate.”
- (7) “rotating said magnet assembly about an axis parallel to and perpendicularly offset from said axis passing through said geometric center of said magnet assembly.” Hurwitt does not teach rotating magnets.

Based on the preceding arguments, Applicants respectfully maintain that Hurwitt does not anticipate claim 1, and that claim 1 is in condition for allowance.



**35 U.S.C. § 103**

The Examiner rejected claims 13 and 28 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakamura et al. (01-147063) or Sudo (Japan 60-89571) or Hurwitt et al. (U.S. Pat. 4,957,605) in view of Arita (Japan 03-257161).

Applicants believe the 13 and 28 under 35 U.S.C. § 103(a) rejection is moot in light of Applicants canceling claims 13 and 28.

However, while the Examiner indicated that Arita addressed the “protective coating,” Applicants respectfully point out that in Arita FIG. 7 the only the upper parts of the pole extenders 6A and 6B are coated with layers 7 not “all surfaces” as Applicants amended claim 1 requires.

The Examiner rejected claims 14, 15, 29 and 30 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakamura et al. (01-147063) or Sudo (Japan 60-89571) or Hurwitt et al. (U.S. Pat. 4,957,605) in view of Kobayashi et al. (U.S. Pat. 5,944,968).

Applicants believe the 14, 15, 29 and 30 under 35 U.S.C. § 103(a) rejection is moot in light of Applicants canceling claims 14, 15, 29 and 30.

However, the Examiner indicated Kobayashi addressed rotating the magnets. Applicants respectfully point out that the apparatus of Kobayashi appears to be incompatible with rotating the electromagnets of Hurwitt and Sudo and would not result in the alignment of magnets and pole extenders of Applicants claim 1 because in Kobayashi the three rotational modes are designed to interact to rotate a specific magnet design of FIG. 3, in patterns illustrated in FIGs. 4A, 4b and 4c. In fact, Kobayashi is an attempt to eliminate the need for pole extenders and is expensive and complex in comparison to Applicants method.

### **SUMMARY OF EXAMINER INTERVIEW**

On June 12, 2008 a telephone interview was held between Examiner McDonald and Applicants representative Anthony M. Palagonia. A proposed amendment to claim 1 and cancellation of claims 2-30 was discussed. The Examiner indicated that there was a substantial probability of claim 1, as amended supra would be allowed. However, Examiner McDonald indicated a further search was required. Examiner McDonald agreed, in the event of further search indicating claim 1 was not allowable, a second interview would be held prior to issuing a further rejection.

### CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456 (IBM).

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